

SANTA YNEZ RIVER WATERSHED
CALIFORNIA FLOOD CONTROL WORK PLANS

AREA A3b

January 1948

Santa Ynez River Watershed

SANTA YNEZ RIVER WATERSHED
FLOOD CONTROL WORK PLAN

Rodeo - San Pasqual Area A3b

(January 1948)

Description of Area

The area covered by this work plan consists of that portion of Area A3 through which the proposed Rodeo-San Pasqual and combined channel alignments run from the mouths of the respective canyons to the Santa Ynez River. (See Plate IV B). A more detailed discussion of this area, its climate, soils, cover and other conditions may be found in the 1946 Work Plans for the Santa Ynez River Watershed, and the 1941 Survey Report on the Santa Ynez River Watershed made by the U. S. Department of Agriculture.

Problem

The San Pasqual Channel at one time flowed northerly from the canyon mouth across the cultivated lands in undefined sheet flow. Over a period of years this flow has been diverted and channelized along the toe of the steeper mountain slopes above the cultivated lands in a westerly direction for approximately 5000 feet. Beyond this point the alignment breaks sharply along roads and finally runs along the northerly side of the Southern Pacific Railroad finally losing its definition near its junction with San Miguelito Creek. Flow below this point is undefined and reaches the river as sheet flow over agricultural lands. The channel grade becomes flatter and the channel section becomes smaller as it progresses downstream resulting in topping of the channel by flood flows for considerable channel lengths. Deposition has occurred in the channel below the canyon mouth in the past which has further decreased its capacity.

The Rodeo Channel flows in a northerly direction below the canyon mouth until it crosses under State Highway #150. Immediately below the highway crossing the channel disappears and flows from Rodeo Canyon spread out over the valley floor. Some local deposition is evident at this channel outlet. Existing channels from both of these canyons can be seen on Plate IV B.

Proposed Program

This work plan recommends enlargement and reconstruction of approximately 5000 feet of the San Pasqual Channel together with a debris basin on the channel, construction of approximately 1400 feet of channel from Rodeo Canyon with a debris basin located at the junction of the 2 channels and an excavated channel below this debris basin to the Santa Ynez River. See Plate IV B for the general layout.

Since the present channel alignments are irregular, inadequate, and fail to adequately dispose of the flood waters in a defined water course, realignment of the channel was investigated. The reconnaissance survey recommended that

STATE OF NEW YORK
IN SENATE

January 1, 1907

REPORT

OF THE

COMMISSIONERS OF THE LAND OFFICE
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE
JANUARY 1, 1907

THE LAND OFFICE HAS THE HONOR TO ACKNOWLEDGE THE RECEIPT OF THE
REPORT OF THE COMMISSIONERS OF THE LAND OFFICE, DATED JANUARY 1, 1907,
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE, JANUARY 1, 1907,
RELATIVE TO THE LANDS BELONGING TO THE STATE OF NEW YORK.

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the channel alignment be carried down the east side of De Wolff Avenue to the Santa Ynez River. Further detailed investigations proved that a material savings in cost of appurtenance could be made by carrying the alignment down the mid-lot line between DeWolff and Douglas Avenues. (See Plate IV B). If the channel were placed adjacent to De Wolff Avenue, all properties lying to the east of the street would be cut off from the road and would require bridges or culverts to gain access to them. In addition, the relatively deep channel adjacent to a well traveled road constitutes an avoidable traffic hazard. The channel alignment down the mid-lot line cuts a portion of one property only from the present road system for which a bridge is planned.

Very little local information has been found regarding previous floods from these two canyons, however, since these two watersheds lie immediately adjacent to the San Miguelito Watershed and are similar in soils, slope, cover and rainfall pattern, it has been assumed that they are similar in rainfall and runoff characteristics to the San Miguelito Watershed for which good correlation was had between flood history and the Rational Method for computing runoff. Computed runoff for these watersheds for a frequency of once in 25 years is: San Pasqual Canyon 1000 c.f.s., Rodeo Canyon 760 c.f.s. and combined San Pasqual-Rodeo Canyons 1430 c.f.s.

The average annual sediment production for these two watersheds has been estimated at 0.5 Acre Feet per square mile. (Reference U. S. Department of Agriculture Survey Report for the Santa Ynez River, Appendix 9, page 9.) The minimum debris basin capacity has been planned at double the average annual sediment yield anticipated from this watershed.

Since the grade of the valley floor flattens as it approaches the river, the proposed channel becomes quite deeply entrenched near the lower end because velocities, and consequently the channel grade need to be held reasonably constant to avoid deposition of sediment in the lower reaches of the channel. Plate IV B delineates the general layout of this proposal. Sheets 1 through 16 of Drawing # 7-S-11684 show the plan-profile of the channel and debris basins. Sheets 17 through 22 of Drawing # 7-S-11684 show the details of appurtenant structures.

Table No. 1 shows a tabulation of the estimate of costs of this program, broken down by construction items. The United States Department of Agriculture Survey Report on the Santa Ynez River, dated 1941, recommended construction of a flood channel from the canyon mouths through the valley bottom lands to the Santa Ynez River with no upstream control of the Watershed area since only small portions of these drainage basins are cultivated and no major contribution to the reduction of this runoff water can be accomplished by treatment of the cultivated land.

Installation

Installation of controls herein outlined are planned for the fiscal year 1952 following the completion of the San Miguelito Channel.

the channel alignment be carried down the east side of Wolf Avenue to the Santa Ynez River. Further detailed investigations proved that a material change in cost of operation could be made by carrying the alignment down the mid-foot line between Wolf and Touraine Avenues. (See Plate IV B). If the channel were placed adjacent to Wolf Avenue, all properties lying to the east of the street would be cut off from the road and would require bridges or overways to gain access to them. In addition, the relatively deep channel adjacent to a well traveled road constitutes an avoidable traffic hazard. The channel alignment down the mid-foot line onto a portion of one property only from the present road system for which a bridge is planned.

Very little recent information has been found regarding previous floods from these two sources, however, since these two watersheds lie immediately adjacent to the San Miguelito Watershed and are similar in soils, slope, cover and rainfall pattern, it has been assumed that they are similar in rainfall and runoff characteristics to the San Miguelito Watershed for which good correlation was had between flood history and the National Method for determining runoff. Computed runoff for these watersheds for a frequency of once in 25 years is: San Pascual Canyon 1000 c.f.s., Hobos Canyon 700 c.f.s. and combined San Pascual-Hobos Canyon 1650 c.f.s.

The average annual sediment production for these two watersheds has been estimated at 0.5 acre foot per square mile. (Reference E. S. Department of Agriculture Survey Report for the Santa Ynez River, Appendix B, page 9.) The minimum debris basin capacity has been planned as double the average annual sediment yield anticipated from this watershed.

Since the grade of the valley floor flattens as it approaches the river, the proposed channel becomes quite deeply entrenched near the lower end because of velocity, and consequently the channel grade had to be held reasonably constant to avoid deposition of sediment in the lower reaches of the channel. Plate IV B delineates the general layout of this proposal. Sheet I through 16 of Drawing 7-2-1168A show the plan-profile of the channel and debris basins. Sheet IV through 22 of Drawing 7-2-1168B show the details of important structures.

Table No. I shows a tabulation of the estimate of costs of this program broken down by construction items. The United States Department of Agriculture Survey Report on the Santa Ynez River, dated 1941, recommended construction of a flood channel from the canyon mouth through the valley bottom lands to the Santa Ynez River with no upstream control of the Watershed area since only small portions of these drainage basins are cultivated and no major contribution to the reduction of this runoff water can be accomplished by treatment of the cultivated land.

Installation

Installation of controls herein outlined was planned for the fiscal year 1952 following the completion of the San Miguelito Channel.

Maintenance

It is expected that the structures built in accordance with these plans will be maintained by a local maintenance district to be organized for this express purpose.

Rights-of-Way

A right-of-way will be required through which this channel and appurtenances will be installed. Additional right-of-way will be required to gain access to the channel for maintenance purposes. Of the total rights-of-ways of 38.3 acres required for this work, 26.9 acres are irrigated, 2.1 acres are dry farmed and 9.3 acres are brush land. Since federal flood control funds cannot be expended for purchase of rights-of-ways, purchase of this land will have to be made from other funds. It is anticipated that some of the land-owners near the upper reaches of these channels will grant the needed rights-of-way since they will benefit directly by the installation of these measures. Rights-of-way through the lower reaches of this proposed channel will quite likely have to be condemned since the land is valuable and the proposed alignment brings flood waters across some land not previously damaged by floods from this area. The estimated cost of right-of-way is \$38,000.

Distribution of Cost

<u>Item</u>	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
Program Installation	\$308,779		\$308,779
Rights-of-way		\$38,000	
Total	\$308,779	\$38,000	\$346,779

Funds

Estimated costs of work to be accomplished under plans submitted in 1946 are sufficient to obligate funds previously authorized for flood control work in the Santa Ynez. It will be necessary, therefore, before work outlined in this work plan can be accomplished for new and additional funds to be authorized for expenditure on this project. As indicated it is planned that the work outlined in this work plan will be done in 1952, at an estimated federal government cost of \$308,779.

Maintenance

It is expected that the structures built in accordance with these plans will be maintained by a local maintenance district to be organized for this express purpose.

Right-of-Way

A right-of-way will be required through which this channel and outfall will be installed. Additional right-of-way will be required to gain access to the channel for maintenance purposes. Of the total right-of-way of 15.5 acres required for this work, 20.5 acres are irrigated, 2.1 acres are dry farmed and 9.5 acres are brown land. Since lateral flood control funds cannot be expended for purchase of right-of-way, purchase of this land will have to be made from other funds. It is anticipated that some of the land-owners near the upper reaches of these channels will grant the needed right-of-way since they will benefit directly by the installation of these measures. Right-of-way through the lower reaches of this proposed channel will quite likely have to be purchased since the land is valuable and the proposed alignment brings flood waters across some land not previously damaged by floods from this area. The estimated cost of right-of-way is \$30,000.

Distribution of Cost

<u>Item</u>	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
Program Installation	\$300,779		\$300,779
Right-of-way		\$30,000	
Total	\$300,779	\$30,000	\$330,779

Funds

Estimated costs of work to be accomplished under plans submitted in 1940 are sufficient to defray funds previously authorized for flood control work in the same year. It will be necessary, therefore, before work outlined in this work plan can be accomplished for new and additional funds to be authorized for expenditures on this project. As indicated it is planned that the work outlined in this work plan will be done in 1952, at an estimated Federal Government cost of \$300,779.

A3b1-3.3	Channel Inlet Structures		2 structures	300.00	600.00	600.00
A3b1-4	Desilting Basin	Excavation	11,690 c.y.	0.30	3,507.00	
		Compact Embankment	3,250 c.y.	0.20	650.00	4,157.00
A3b1-4.1	R. C. Outlet Structure	Structural Excavation	80 c.y.	1.75	140.00	
		Concrete	52 c.y.	65.00	3,380.00	
		Structural Backfill	60 c.y.	1.75	105.00	3,625.00
A3b1-4.2	R. C. Inlet Structure	Structural Excavation	40 c.y.	1.75	70.00	
		Concrete	23 c.y.	65.00	1,495.00	
		Structural Backfill	30 c.y.	1.75	52.50	1,617.50
A3b1-5	Channel	Excavation	7,700 c.y.	.30	2,310.00	2,310.00
A3b1-5.1	Bridge (2-19' spans)	Furnish Timber	8 M.B.M.	125.00	1,000.00	
		Erect Timber	8 M.B.M.	125.00	1,000.00	
		Structure Excavation	19 c.y.	1.75	34.00	
		Concrete Footings	8 c.y.	72.00	576.00	2,610.00
A3b1-6	Channel	Excavation	5,750 c.y.	.30	1,725.00	
		Compact Embankment	2,430 c.y.	.20	486.00	
		Remove Trees	10 trees	25.00	250.00	
		Pipe Crossing	1 each	100.00	100.00	2,561.00
A3b1-6.1	Bridge (2-19' spans)	Furnish Timber	8 M.B.M.	125.00	1,000.00	
		Erect Timber	8 M.B.M.	125.00	1,000.00	
		Structural Excavation	19 c.y.	1.75	34.00	
		Concrete Footings	8 c.y.	72.00	576.00	2,610.00
<u>Total:</u>						244,115.00
Contingency @ 15%						36,602.00
Construction Cost						280,717.00
Engineering 10%						28,062.00
<u>Total Estimated Cost:</u>						\$308,779.00

Maintenance

It is expected that the structures built in accordance with these plans will be maintained by a local maintenance district to be organized for this purpose.

Right-of-Way

A right-of-way will be required through which this channel and appurtenances will be installed. Additional right-of-way will be required to gain access to the channel for maintenance purposes. Of the total right-of-ways of 25.5 acres required for this work, 20.9 acres are irrigated, 2.1 acres are dry farmed and 2.5 acres are brush land. Since Federal flood control funds cannot be expended for purchase of right-of-ways, purchase of this land will have to be made from other funds. It is anticipated that some of the landowners near the upper reaches of these channels will grant the needed right-of-way since they will benefit directly by the installation of these measures. Rights-of-way through the lower reaches of this proposed channel will quite likely have to be condemned since the land is valuable and the proposed alignment brings flood waters across some land not previously damaged by floods from this area. The estimated cost of right-of-way is \$25,000.

Distribution of Cost

<u>Item</u>	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
Program Installation	\$308,719		\$308,719
Right-of-way		\$25,000	
<u>Total</u>	<u>\$308,719</u>	<u>\$25,000</u>	<u>\$333,719</u>

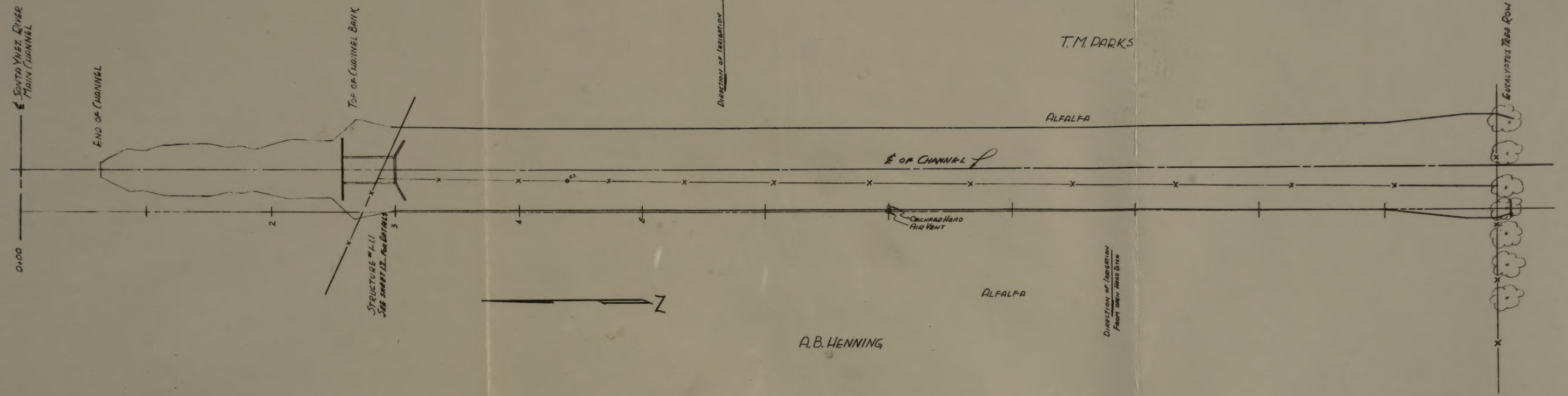
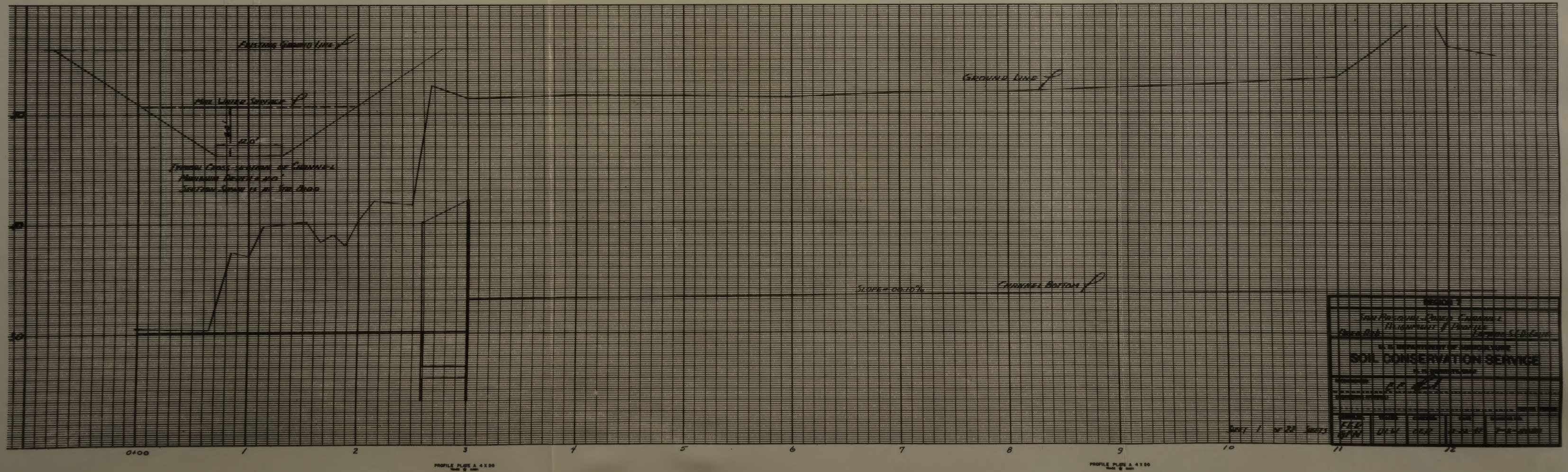
Funds

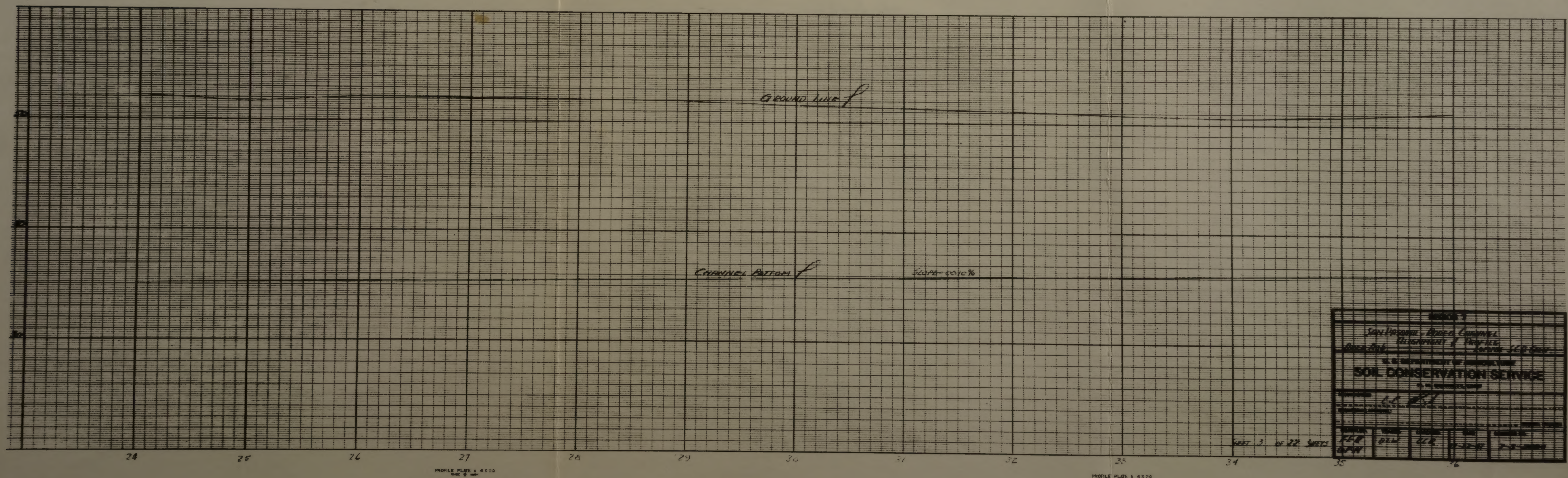
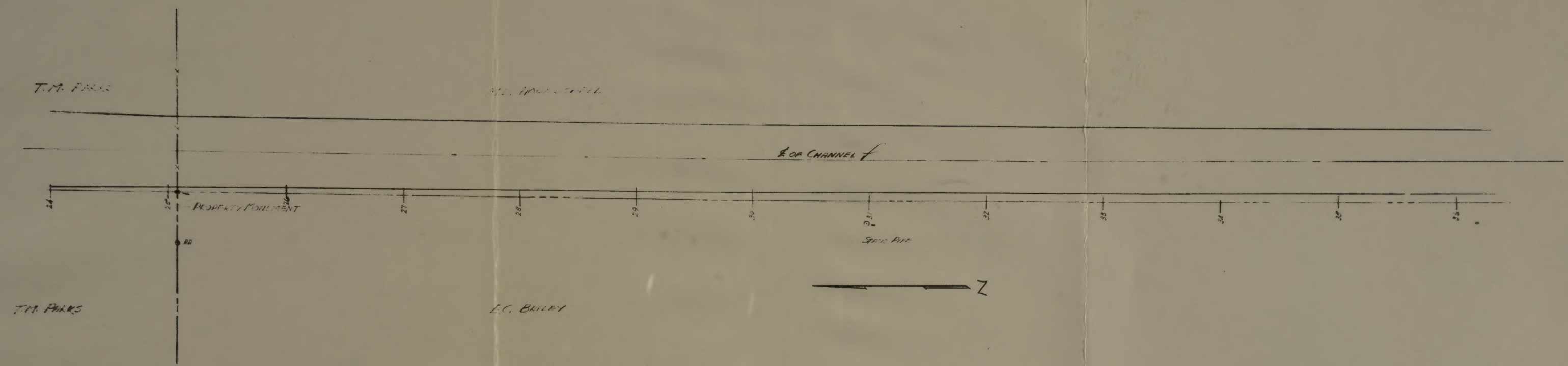
Estimated costs of work to be accomplished under plans submitted in 1940 are sufficient to defray funds previously authorized for flood control work in the Santa Ynez. It will be necessary, therefore, before work outlined in this work plan can be accomplished for now and additional funds to be authorized for expenditures on this project. As indicated it is planned that the work outlined in this work plan will be done in 1945, at an estimated Federal Government cost of \$333,719.

TABLE NO. 1
RODEO - SAN PASQUAL CHANNEL
AREA A3b
PROPOSED STRUCTURAL CONTROL
(1952 Program)

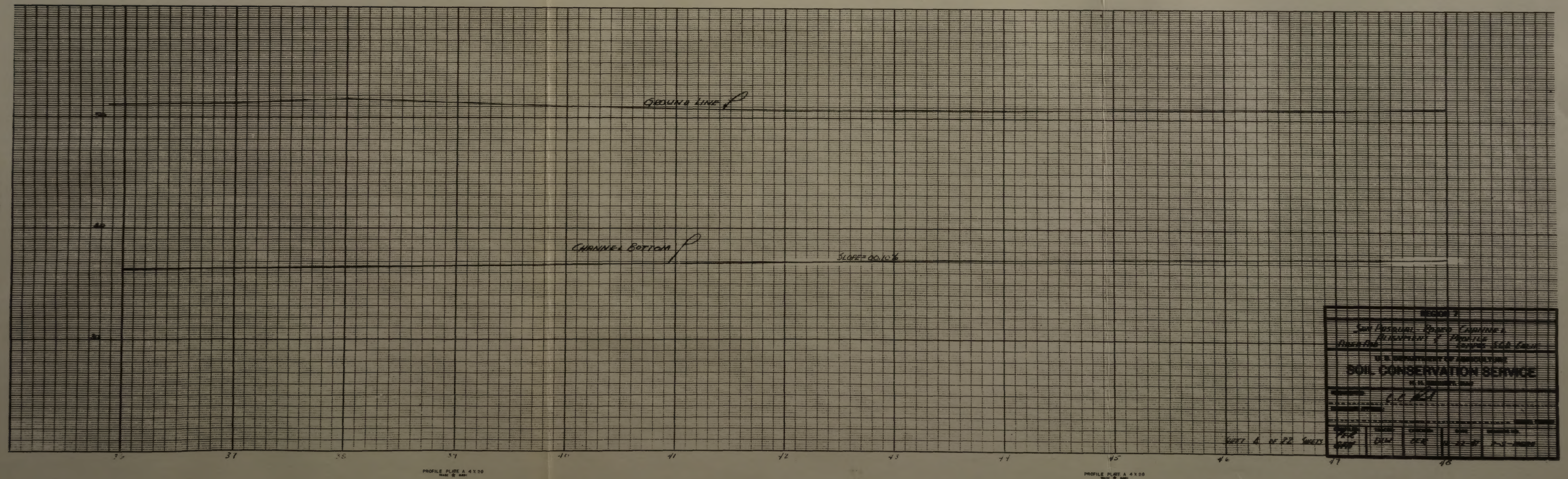
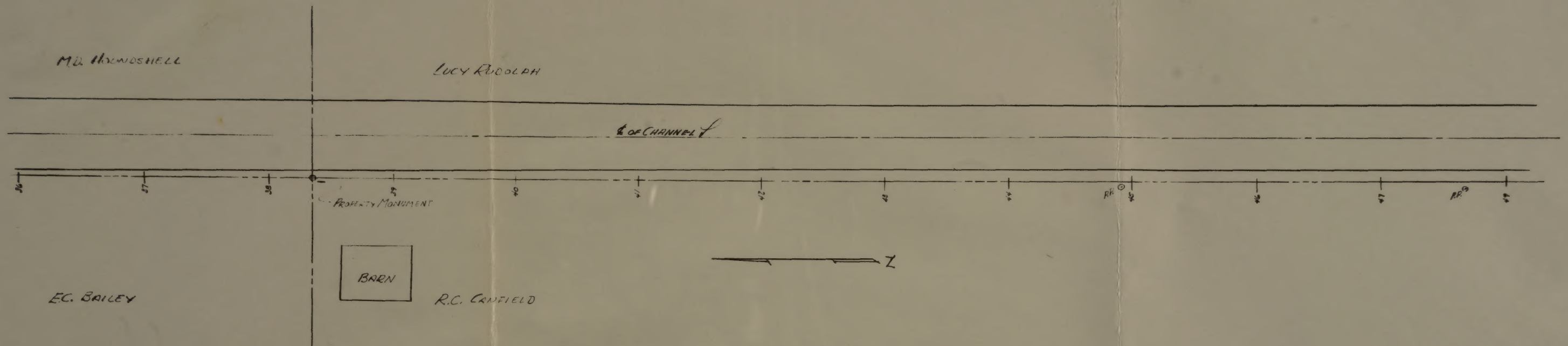
Channel or Structure Designation	Description	Items	Units	Unit Cost	Total Cost	Cost Per Structure
A3bl-1	Channel	Excavation Excavation Overhaul Compact Embankment 12" Concrete Irrigation Line Move Power Poles	199,720 c. y. 215,360 y. ml. 5,845 c.y. 2,200 ft. 2 poles 2 crossings	0.30 0.40 0.20 1.10 75.00 300.00	59,916.00 86,144.00 1,169.00 2,420.00 150.00 600.00	150,399.00
A3bl-1.1	R. C. Drop Outlet Struc.	Structural Excavation Concrete Structural Backfill	157 c.y. 77 c.y. 270 c.y.	1.75 65.00 1.75	274.75 5005.00 472.50	5,752.25
A3bl-1.2	Bridge (3-19' spans)	Furnish Timber Erect Timber Structural Excavation Concrete Footings	13 M.B.M. 13 M.B.M. 26 c.y. 12 c.y.	125.00 125.00 1.75 72.00	1,625.00 1,625.00 45.50 864.00	4,159.50
A3bl-1.3	R. C. Culvert	Structural Excavation Concrete Structural Backfill Resurface Road	250 c.y. 121 c.y. 214 c.y. 138 sq. y.	1.75 72.00 1.75 2.50	437.50 8,712.00 374.50 345.00	9,869.00
A3bl-1.4	Bridge (3-19' spans)	Furnish Timber Erect Timber Structural Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
A3bl-1.5	R. C. Culvert	Structural Excavation Concrete Structural Backfill Support R.R. during Const.	196 c.y. 121 c.y. 186 c.y. lump sum	1.75 72.00 1.75 1,000.00	343.00 8,712.00 325.50 1,000.00	10,380.50
A3bl-1.6	Bridge (2-19' spans)	Furnish Timber Erect Timber Structural Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
A3bl-1.7	R. C. Culvert	Structural Excavation Concrete Structural Backfill Resurface Road	213 c.y. 123.5 c.y. 220 c.y. 156 sq.y.	1.75 72.00 1.75 2.50	372.75 8,892.00 385.00 390.00	10,039.75
A3bl-1.8	Bridge (2-19' spans)	Furnish Timber Erect Timber Structural Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
A3bl-1.9	Channel Inlet Structures		10 Structures	300.00	3,000.00	3,000.00
A3bl-2	Desilting Basin	Excavation	10,760 c.y. 2,350 c.y.	0.30 0.20	3,228.00 470.00	3,698.00
A3bl-2.1	R. C. Outlet Structures	Structural Excavation Concrete Structural Backfill	80 c.y. 51 c.y. 50 c.y.	1.75 65.00 1.75	140.00 3,315.00 87.50	3,542.50
A3bl-2.2	R. C. Inlet Structure	Structural Excavation Concrete Structural Backfill	40 c.y. 24 c.y. 30 c.y.	1.75 65.00 1.75	70.00 1,560.00 52.50	1,682.50
A3bl-2.3	R. C. Inlet Structure	Structural Excavation Concrete Structural Backfill	40 c.y. 26 c.y. 30 c.y.	1.75 65.00 1.75	70.00 1,690.00 52.50	1,812.50
A3bl-3	Channel	Excavation Compact Embankment	11,780 c.y. 7,350 c.y.	.30 .20	3,534.00 1,470.00	5,004.00
A3bl-3.1	Bridge (2-19' spans)	Furnish Timber Erect Timber Structure Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
A3bl-3.2	R.C. Drop Structure	Structural Excavation Concrete Structural Backfill	90 c.y. 61 c.y. 70 c.y.	1.75 65.00 1.75	157.50 3,965.00 122.50	4,245.00
A3bl-3.3	Channel Inlet Structures		2 structures	300.00	600.00	600.00
A3bl-4	Desilting Basin	Excavation Compact Embankment	11,690 c.y. 3,250 c.y.	0.30 0.20	3,507.00 650.00	4,157.00
A3bl-4.1	R. C. Outlet Structure	Structural Excavation Concrete Structural Backfill	80 c.y. 52 c.y. 60 c.y.	1.75 65.00 1.75	140.00 3,380.00 105.00	3,625.00
A3bl-4.2	R. C. Inlet Structure	Structural Excavation Concrete Structural Backfill	40 c.y. 23 c.y. 30 c.y.	1.75 65.00 1.75	70.00 1,495.00 52.50	1,617.50
A3bl-5	Channel	Excavation	7,700 c.y.	.30	2,310.00	2,310.00
A3bl-5.1	Bridge (2-19' spans)	Furnish Timber Erect Timber Structure Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
A3bl-6	Channel	Excavation Compact Embankment Remove Trees Pipe Crossing	5,750 c.y. 2,430 c.y. 10 trees 1 each	.30 .20 25.00 100.00	1,725.00 486.00 250.00 100.00	2,561.00
A3bl-6.1	Bridge (2-19' spans)	Furnish Timber Erect Timber Structural Excavation Concrete Footings	8 M.B.M. 8 M.B.M. 19 c.y. 8 c.y.	125.00 125.00 1.75 72.00	1,000.00 1,000.00 34.00 576.00	2,610.00
Total:						244,115.00
Contingency @ 15%						36,602.00
Construction Cost						280,717.00
Engineering 10%						28,062.00
Total Estimated Cost:						\$308,779.00







SOIL CONSERVATION SERVICE U.S. DEPARTMENT OF AGRICULTURE REGIONAL OFFICE SAN JOAQUIN RIVER CHANNEL RECONSTRUCTION PROJECT STATION 25 TO 35			
SHEET 3 OF 22 SHEETS DRAWN BY: [Signature] CHECKED BY: [Signature] DATE: 10-22-61			



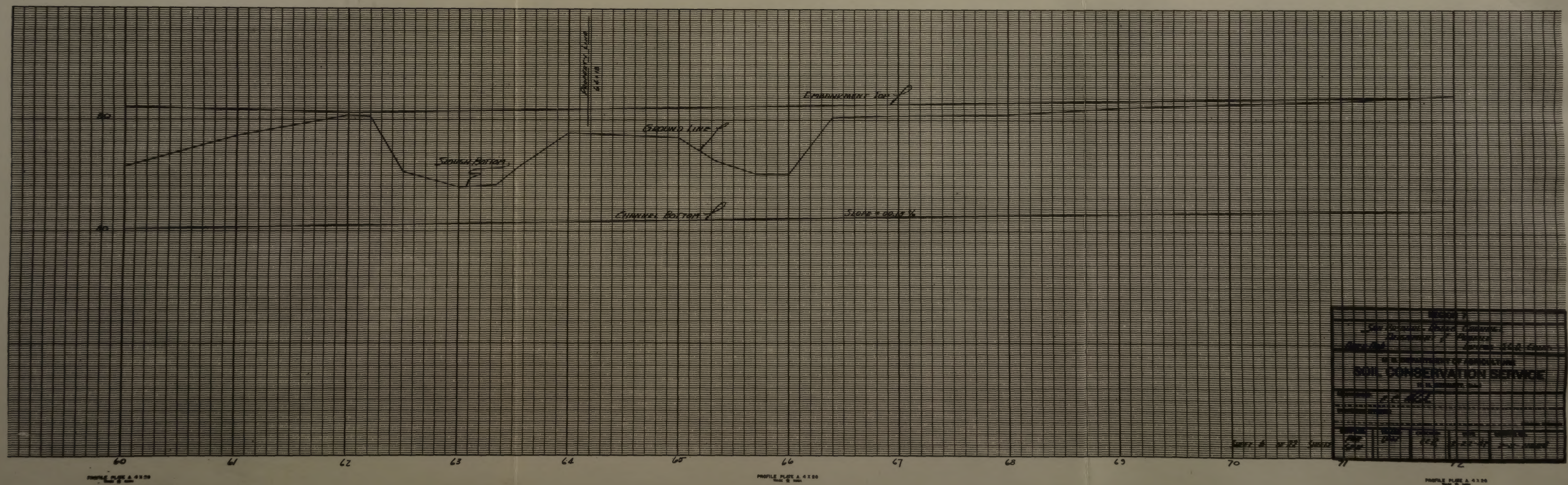
REGION 1			
San Pascual - River Channel			
RECONSTRUCTION & IMPROVEMENT		PROJECT	
U.S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
COUNTY OF SAN JUAN, N.M.			
Sheet No. 1			
Sheet 1 of 22 Sheets			
DATE	BY	CHECKED	APPROVED
1942	DEM	DEM	11-22-42 J. L. MOORE

PROFILE PLATE A 4x100
Scale 1" = 20'

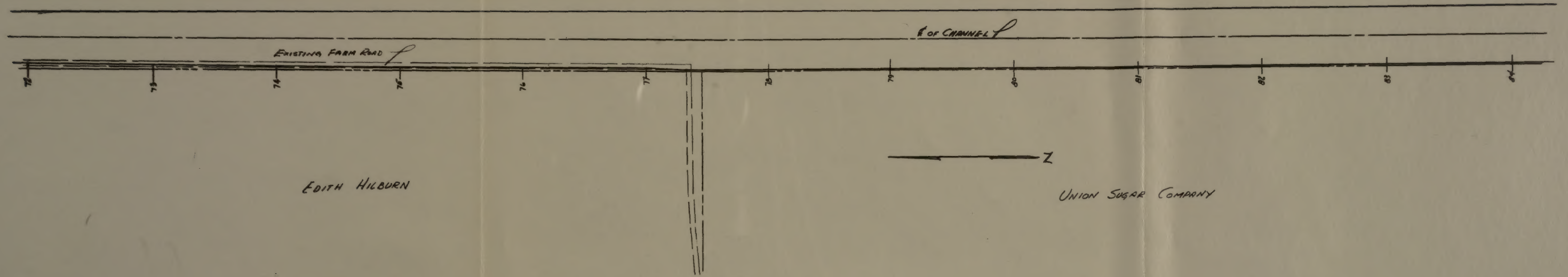
PROFILE PLATE A 4x100
Scale 1" = 20'

A hand-drawn map of a canal section. The map is oriented horizontally. At the top left, the name "L.S. DOWGLASS" is written. At the top right, "UNION SUGAR COMPANY" is written. The map shows a canal with a "Edge of berm" indicated by a line. A "10' wide Dike Top" is also marked. The canal is divided into sections by vertical lines, with a scale from 60 to 72 along the bottom. A "STAND PIPE" is located near the right end. The text "# OF CHANNEL f" is written in the center. A dashed line represents the "EXISTING FARM ROAD". A north arrow is at the bottom right.

— Z

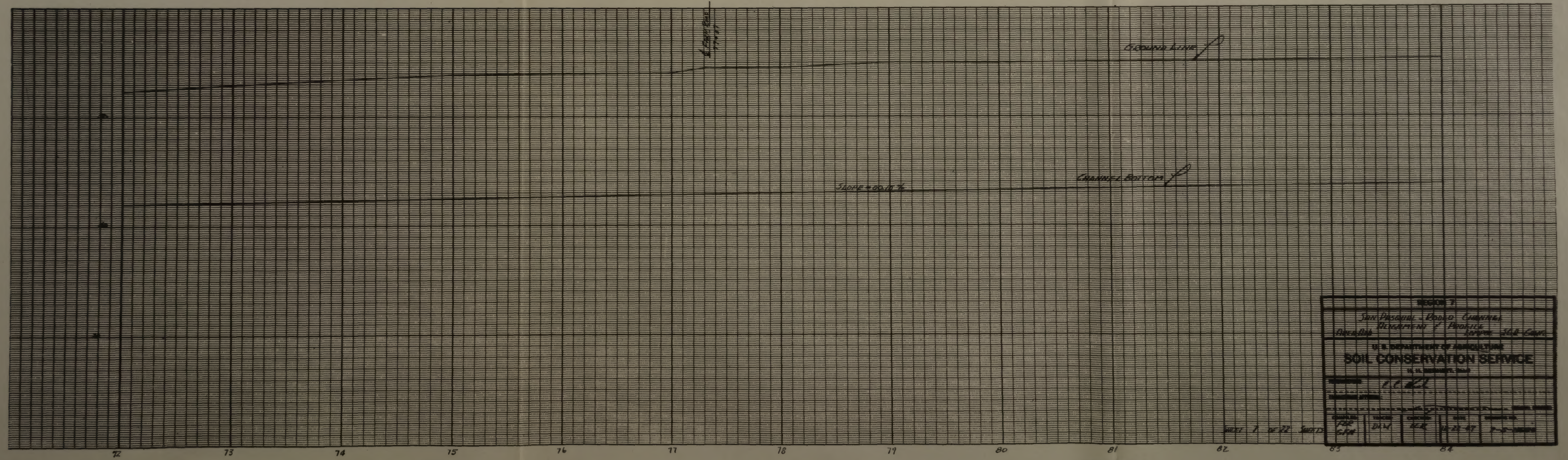


UNION SUGAR COMPANY



EDITH HILBURN

UNION SUGAR COMPANY



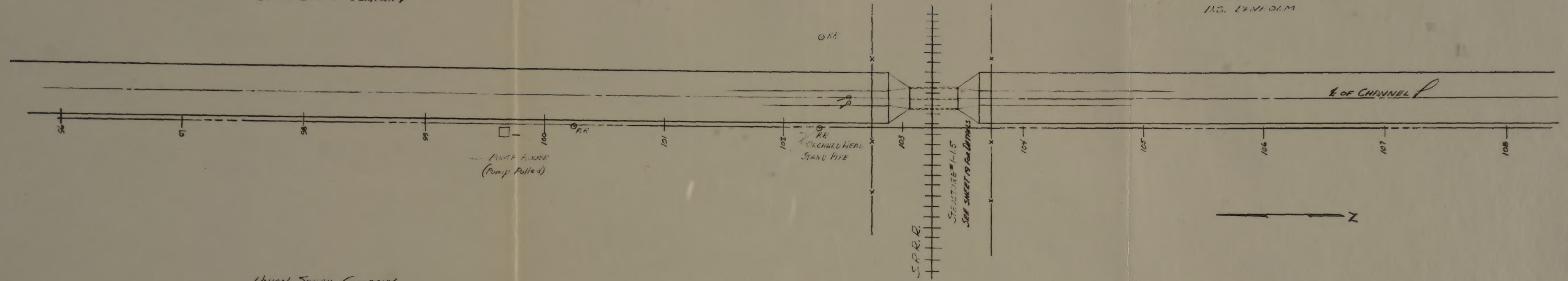
SECTION 7				
San Pascual - Road - Channel				
Alignment / Profile				
U. S. DEPARTMENT OF AGRICULTURE				
SOIL CONSERVATION SERVICE				
U. S. DEPARTMENT OF AGRICULTURE				
DATE: 11-21-47				
DRAWN BY: J. C. HILBURN				
CHECKED BY: J. C. HILBURN				
APPROVED BY: J. C. HILBURN				
SHEET 1 OF 22				

PROFILE PLATE A 4x20

PROFILE PLATE A 4x20

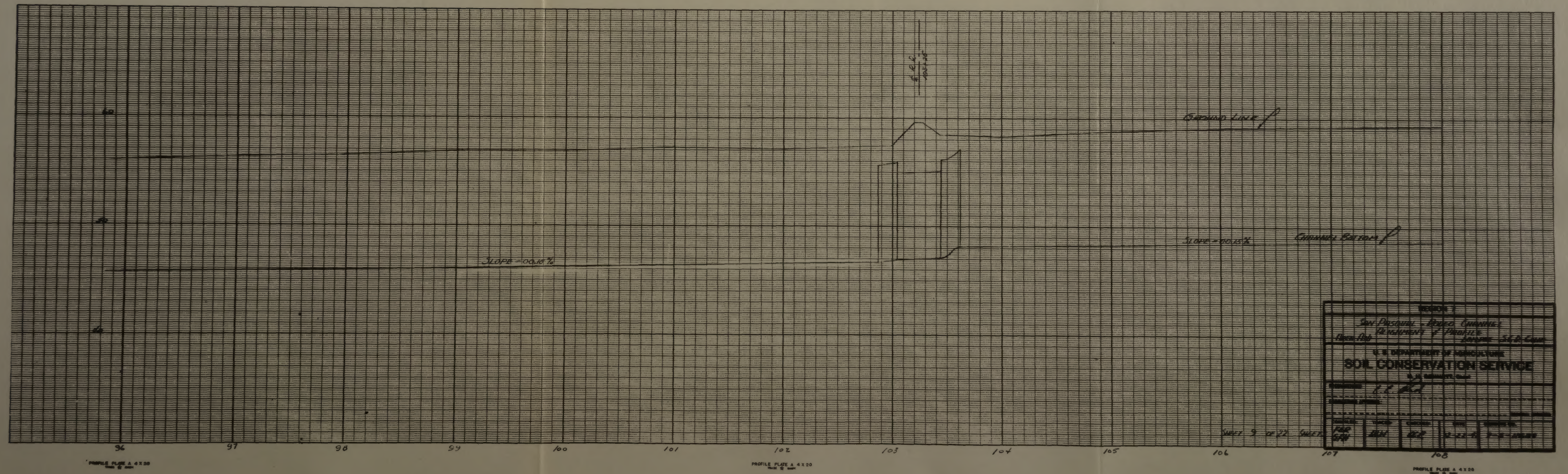
UNION SUGAR COMPANY

D.S. DENHOLM

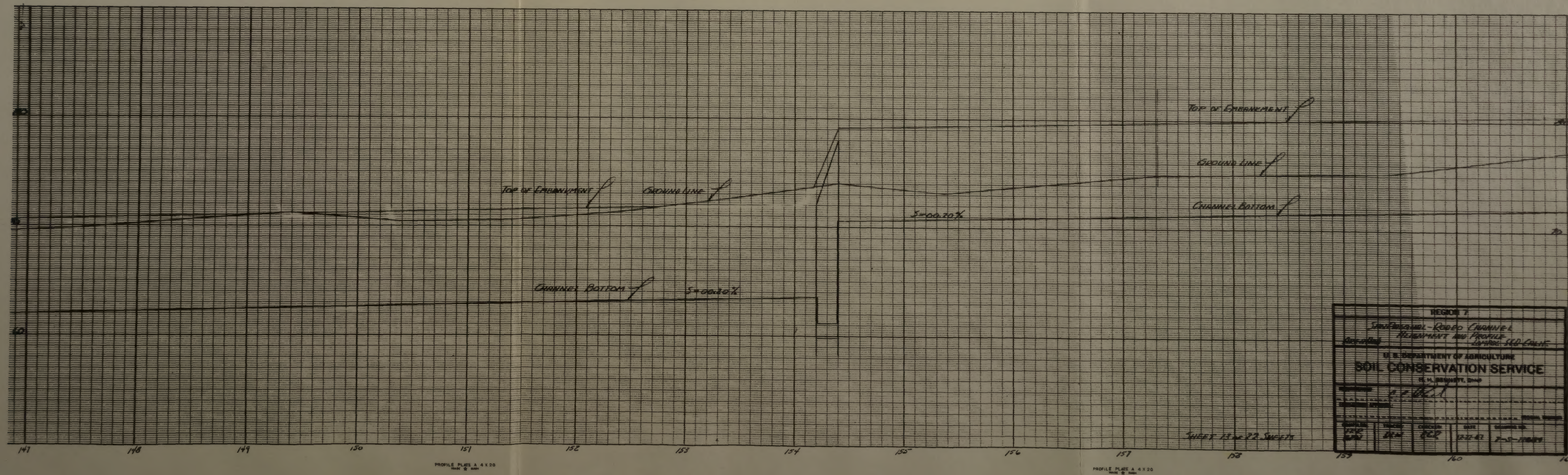
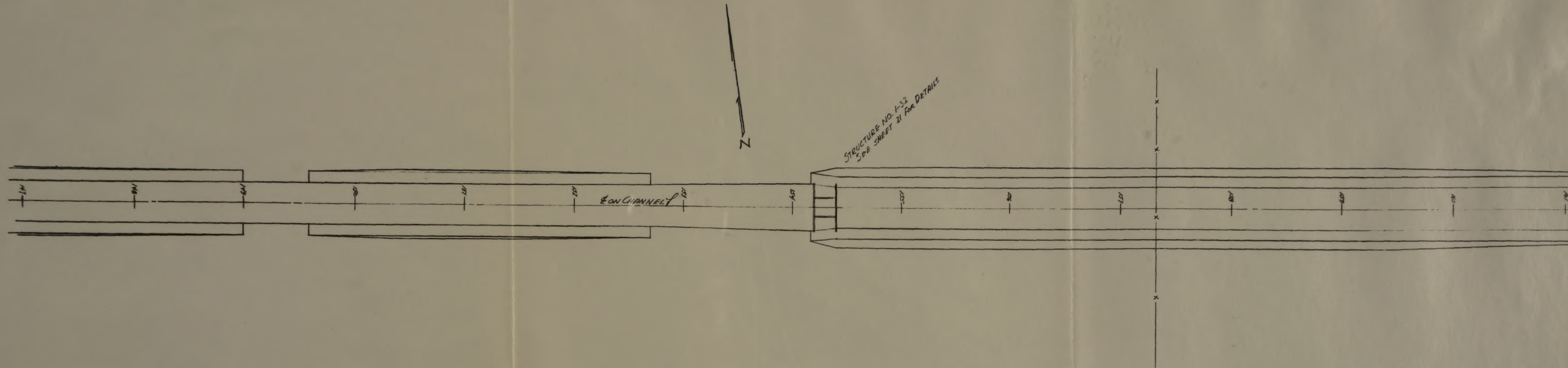


UNION SUGAR COMPANY

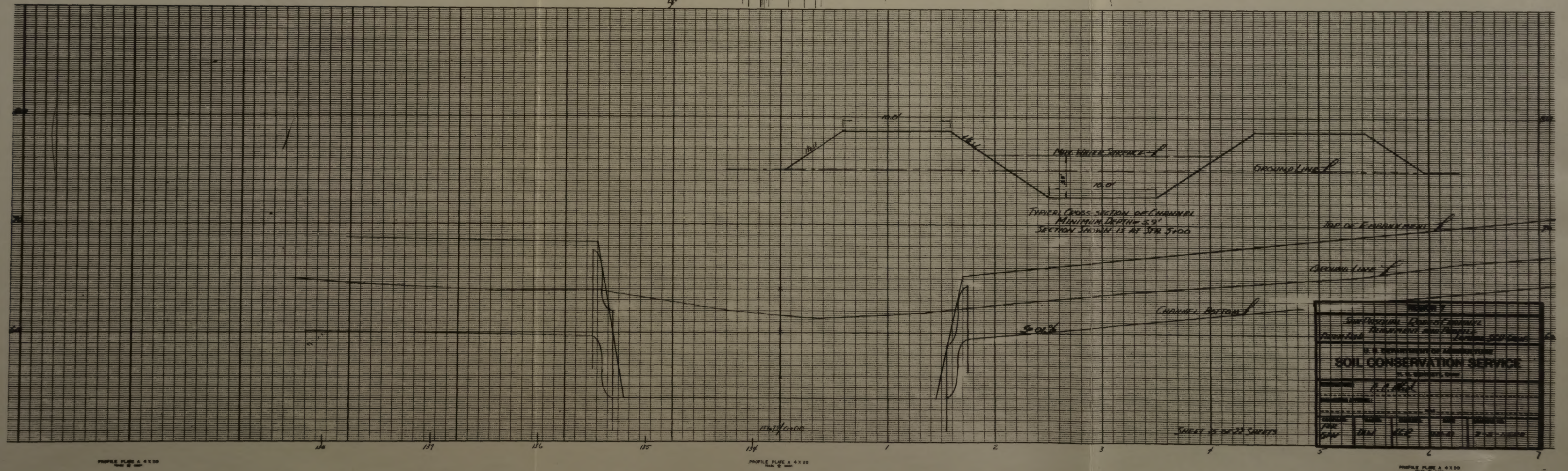
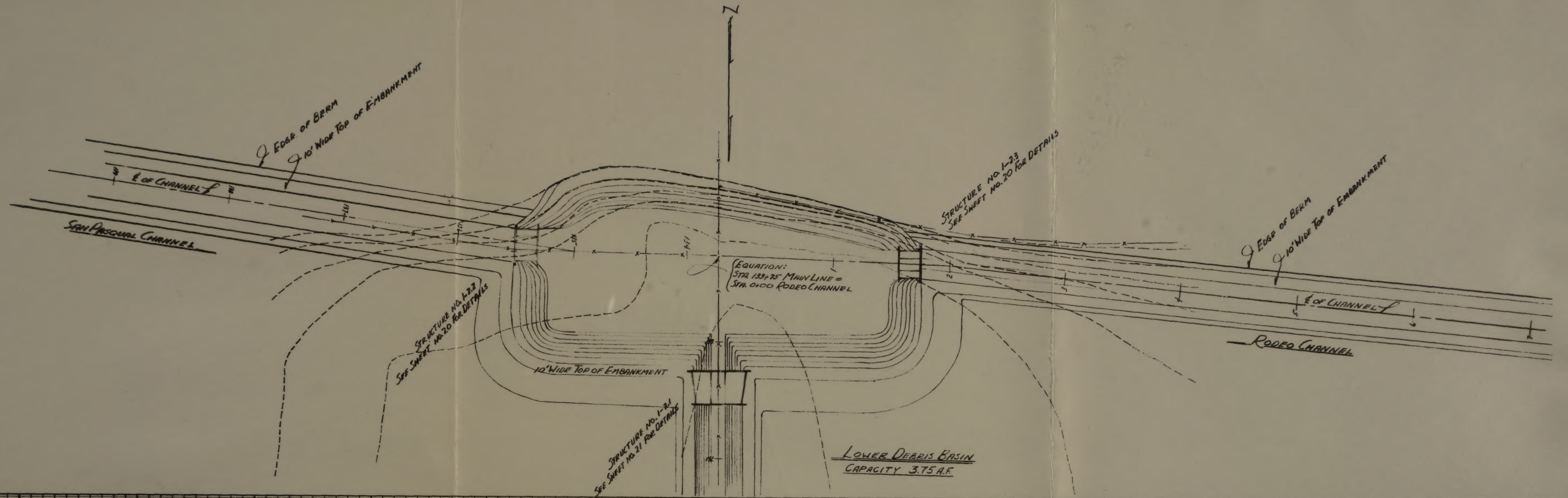
D.S. DENHOLM

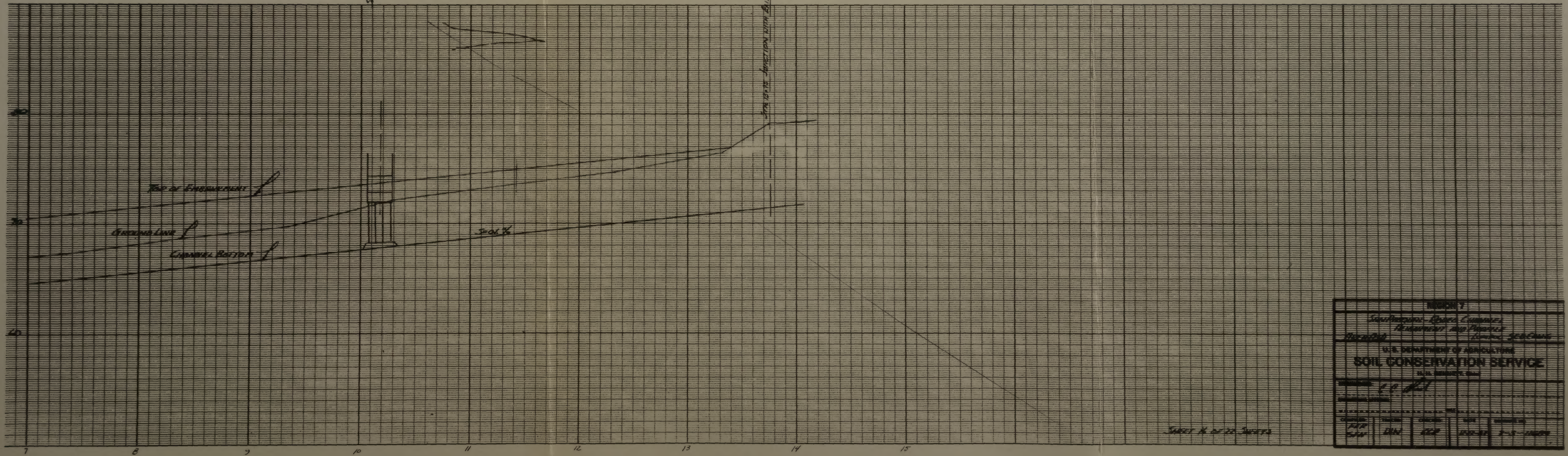
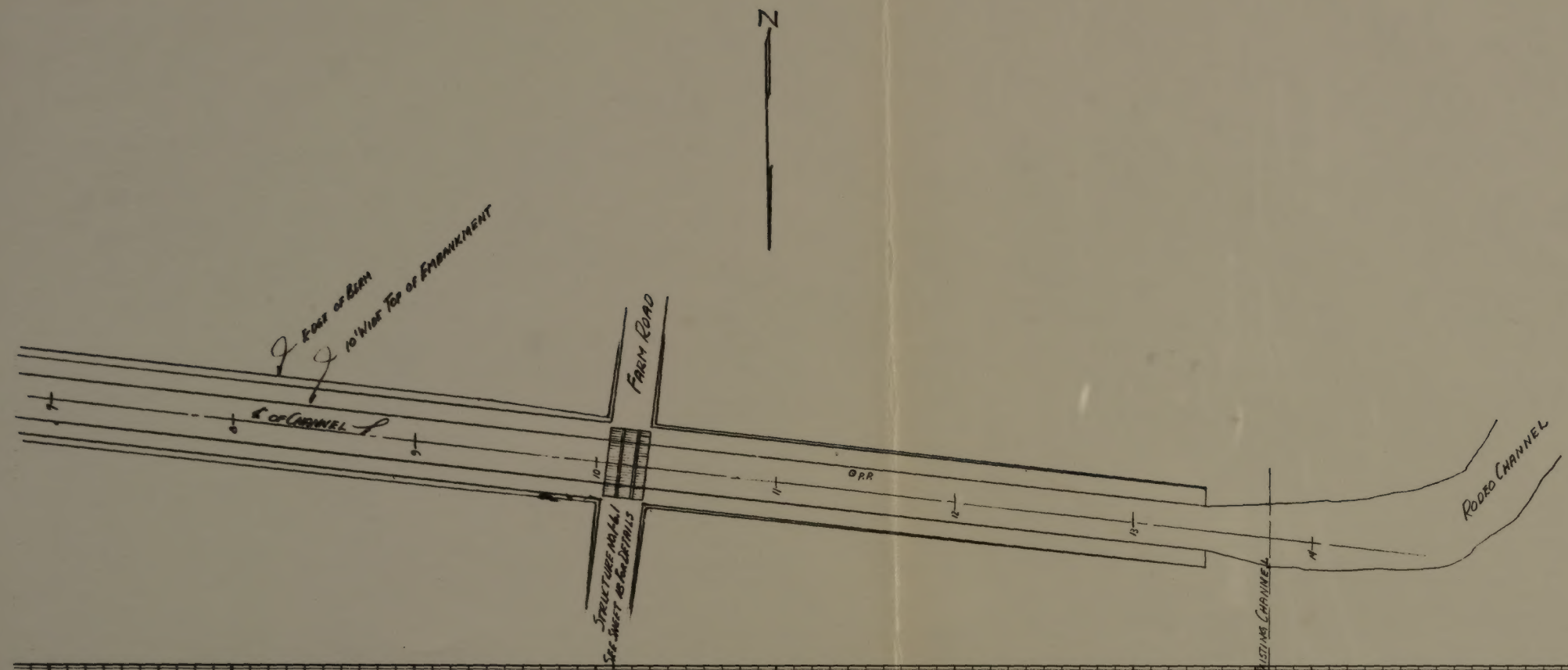


SECTION 1			
San Pascual River Channel		Profile	
Channel		Profile	
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
A. J. DENHOLM, Eng.			
Project No. 1-1.5			
Sheet No. 1-1.5			
Scale 1" = 100'			
Date 1-1-55			
Drawn by J. J. DENHOLM			
Checked by J. J. DENHOLM			
Approved by J. J. DENHOLM			

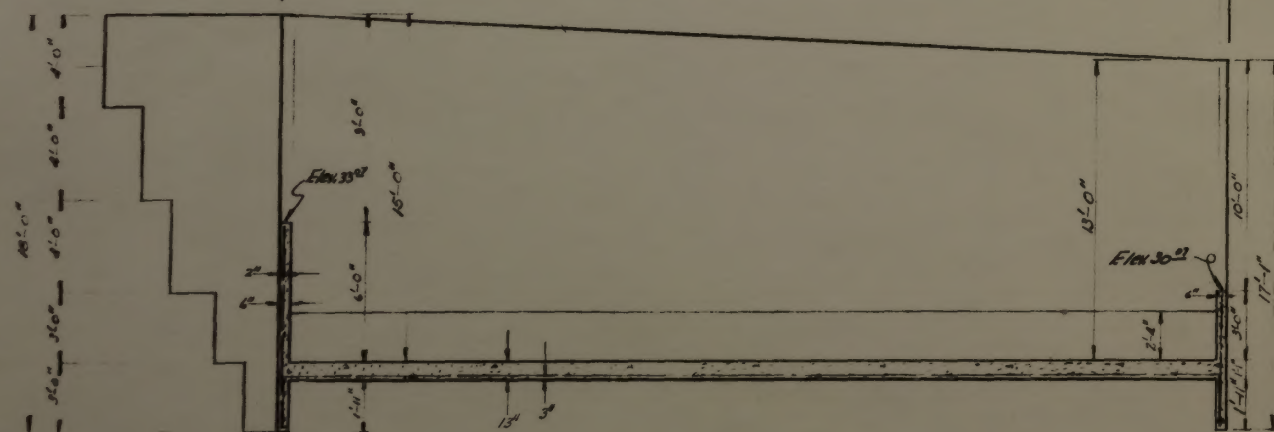


REGION 7				
SANDY/SANDY-ROCKY CHANNEL				
REINFORCEMENT AND PROFILE				
DRAWING: 540-CH-1				
U. S. DEPARTMENT OF AGRICULTURE				
SOIL CONSERVATION SERVICE				
R. M. BENNETT, ENG.				
DATE: 12-22-47				
SHEET 22 OF 22 SHEETS				
DESIGNED BY	DRAWN BY	CHECKED BY	DATE	REVISION NO.
			12-22-47	1-5-1948

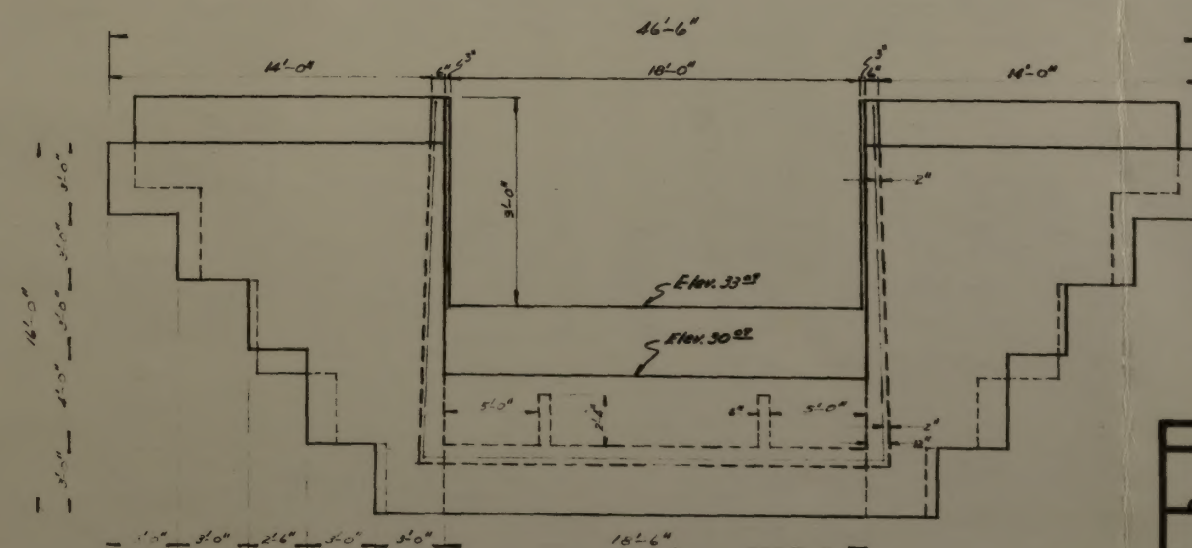




REGION 7				
San Antonio River Channel				
Reclamation and Planning				
Project No. 100-100				
U.S. DEPARTMENT OF AGRICULTURE				
SOIL CONSERVATION SERVICE				
10-10, 10-10, 10-10				
Sheet 10 of 22 Sheets				
DATE	THROW	CHECK	DATE	THROW
10-10	10-10	10-10	10-10	10-10



LONGITUDINAL SECTION ON 4



DOWNSTREAM ELEVATION

SCALE: 1"=4'-0"

SHEET 17 OF 22 SHEETS

DROP STRUCTURE NO. 1-11

Max. Q = 1430 c.f.s.

SECTION 2

SAN PASCUAL - ROQUE CHANNEL
STRUCTURAL DETAIL

ROMERO S.C. & CALIF

U. S. DEPARTMENT OF AGRICULTURE

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

M. M. BERNSTEIN, CHAIR



CCP	ACN	CCP	11-11-49	7-3-10000
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CCP

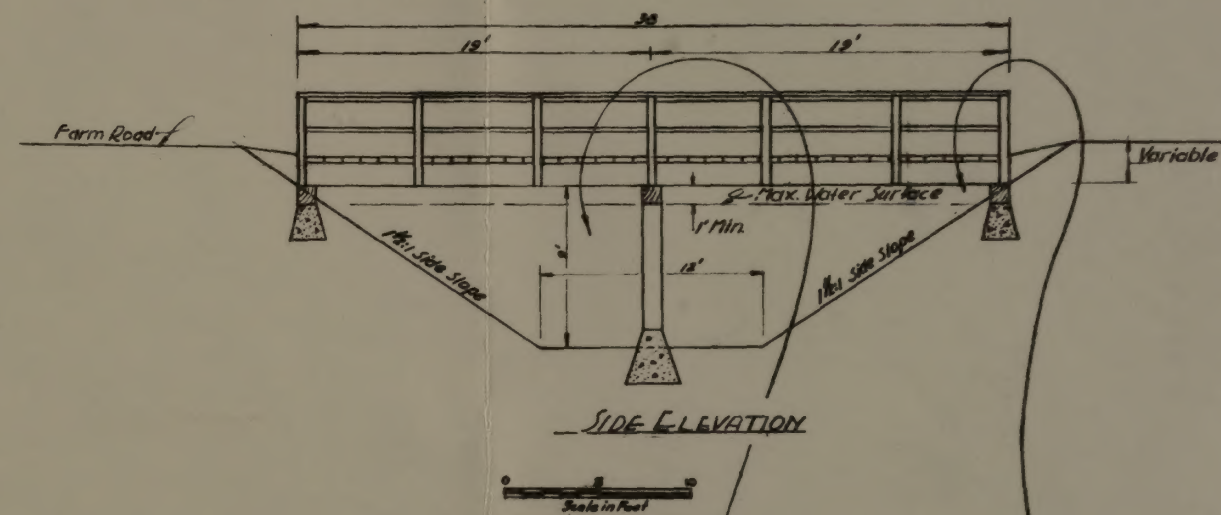
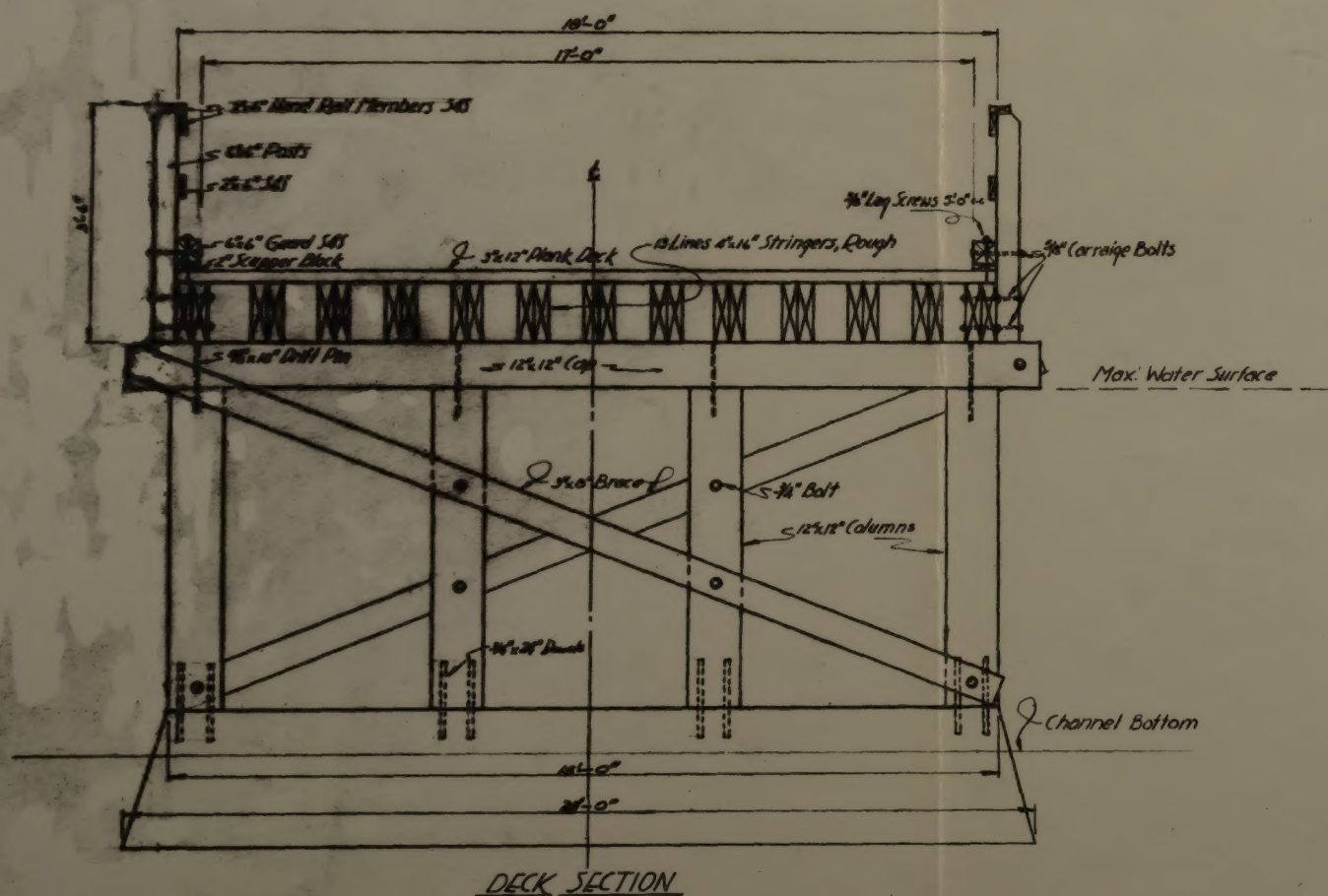
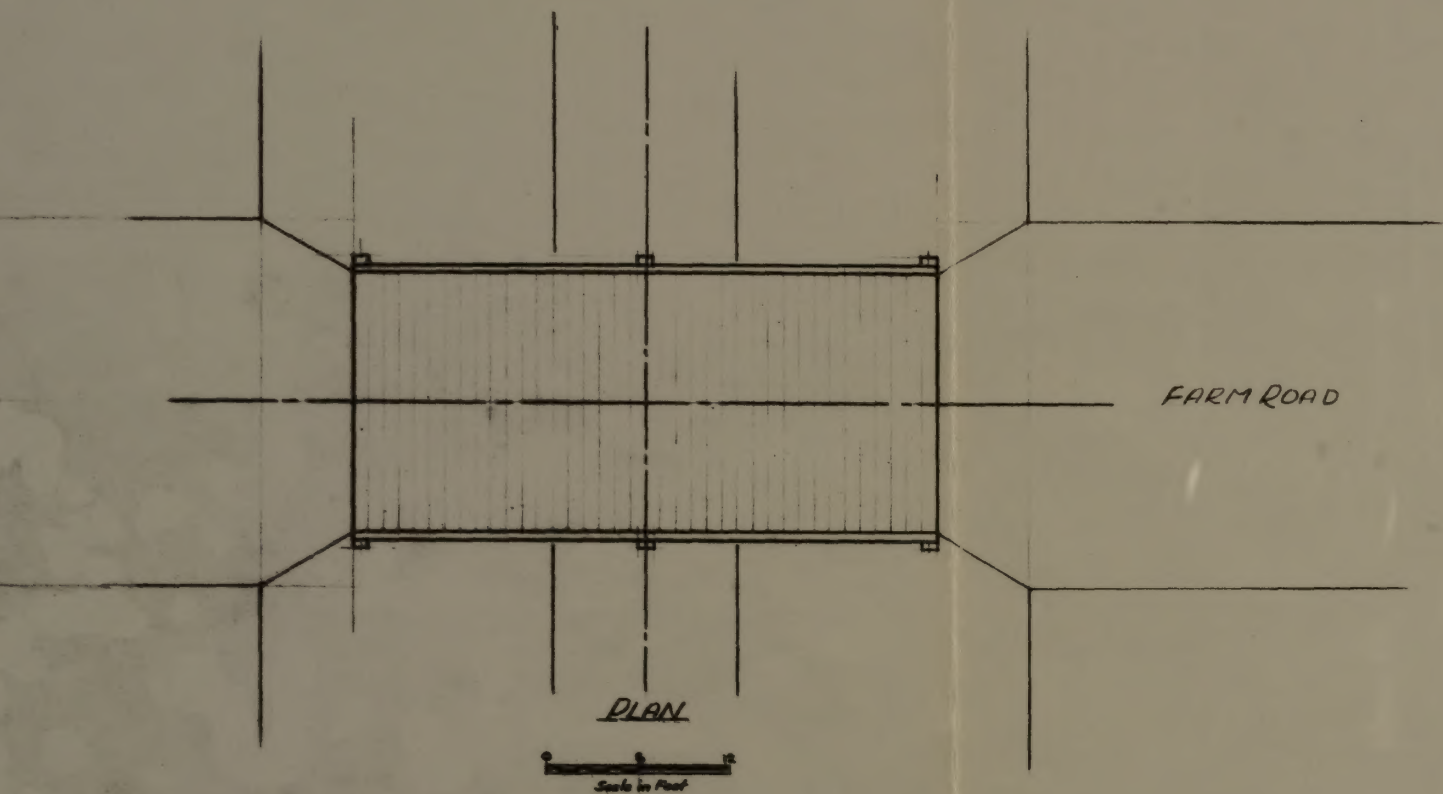
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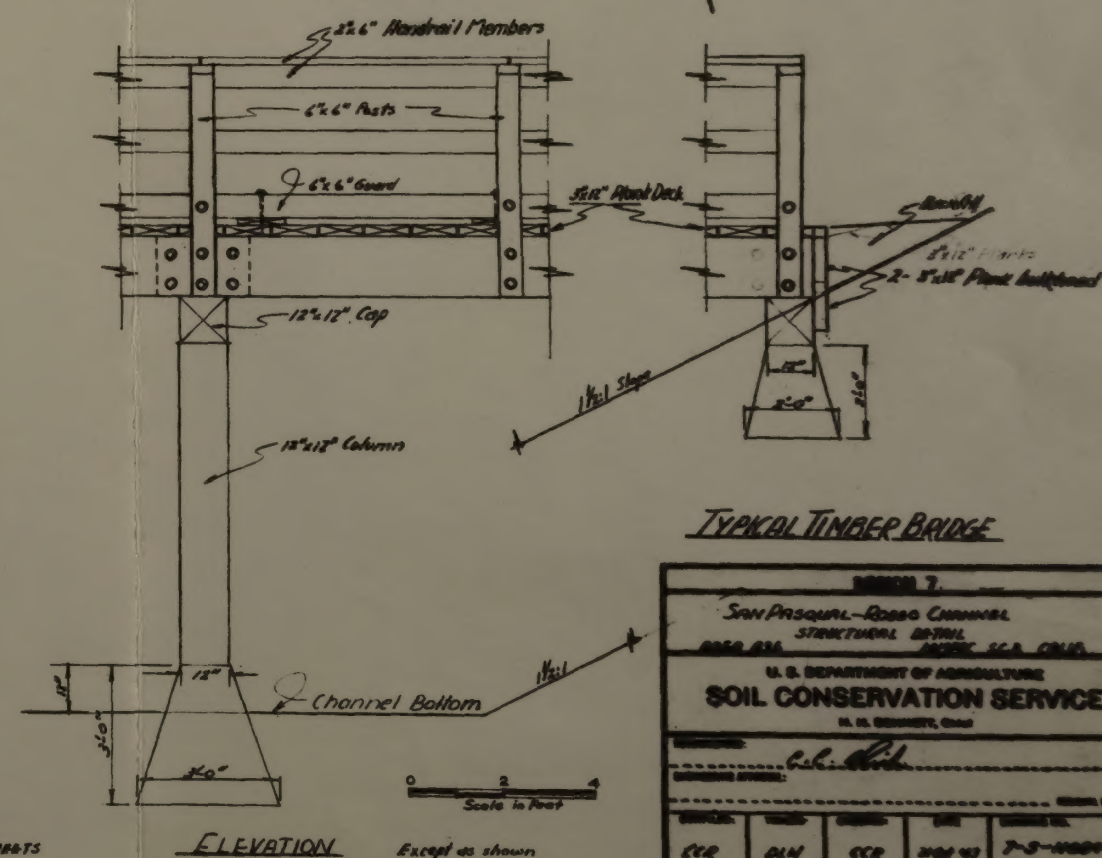
42-47

22-10000



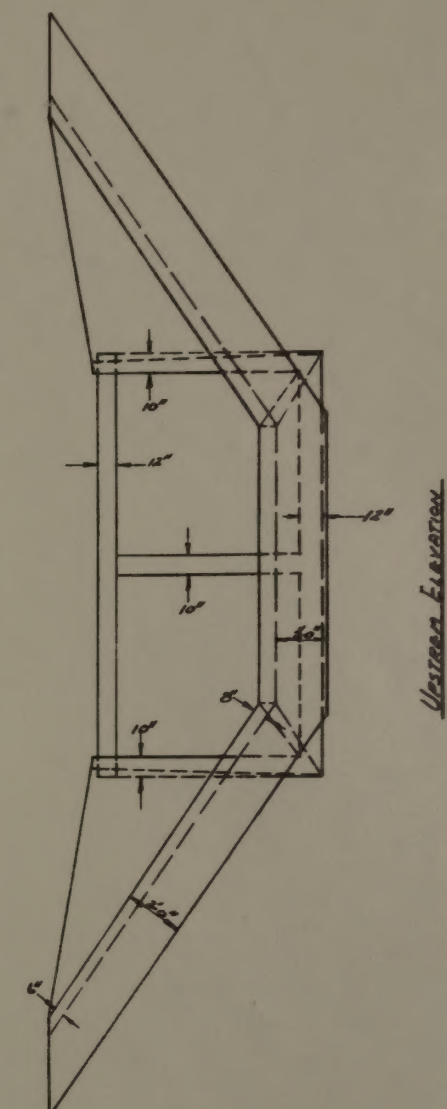
Typical for structures #3 A3b 1-1.4, 1-1.6, 1-1.8, 1-3.4, 1-3.1, 1-6.1.
Structure #A3b 1-1.2 is similar, except for containing 3-19' spans instead of 2.

Reference:
Santa Barbara County detail sheet 55-302.2 &
State of Calif. Div. of Highways Standard Bridge
Detail Sheet 632



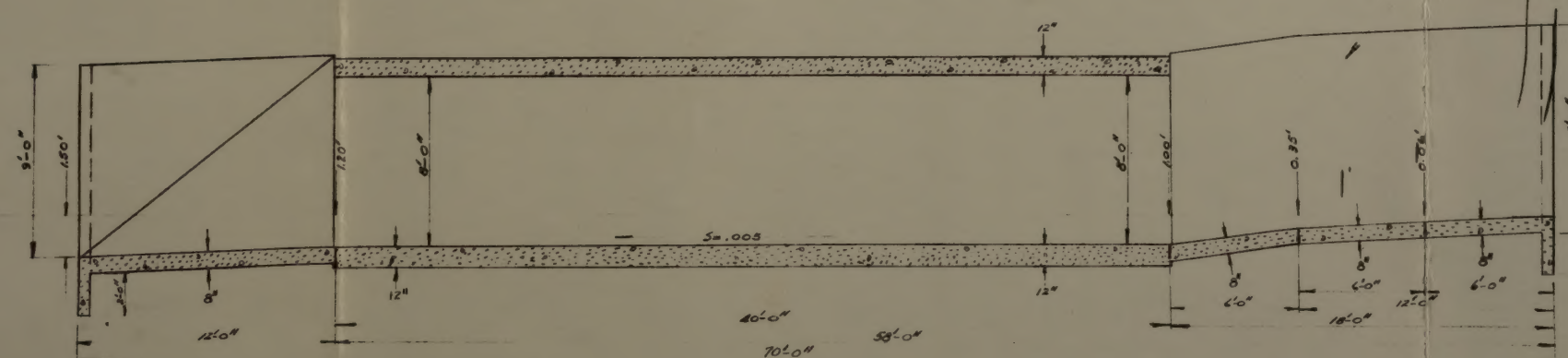
TYPICAL TIMBER BRIDGE

SHEET 18 OF 22 SUBPLOTS				
SAN PABLO-ROCK CHANNEL				
STRUCTURAL DETAIL				
U. S. DEPARTMENT OF AGRICULTURE				
SOIL CONSERVATION SERVICE				
U. S. DEPARTMENT, CHIEF				
C. L. KILB				
DESIGNED BY:				
DATE:	DESIGNED BY:	CHECKED BY:	DATE:	REVISIONS:
1-1-42	C. L. KILB	C. L. KILB	1-1-42	7-5-42

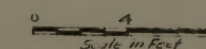


TYPICAL OF STRUCTURES
NO. 1-13, 1-15 & 1-17, EXCEPT
FOR STRUCTURE NO. 1-17 HAVING A
10° ANGLE BREAK AT THE CENTER.
MAX. Q = 1430 C.A.S.

REFERENCE: STATE OF CALIFORNIA, DIVISION OF HIGHWAYS
STANDARD STRUCTURES, BOX CULVERTS.



LONGITUDINAL SECTION B-B



REGION 7

SAN ASAGUAL - RODEO CHANNEL
STRUCTURAL DETAILS
AREA A34 LOMPOC SCD CON

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

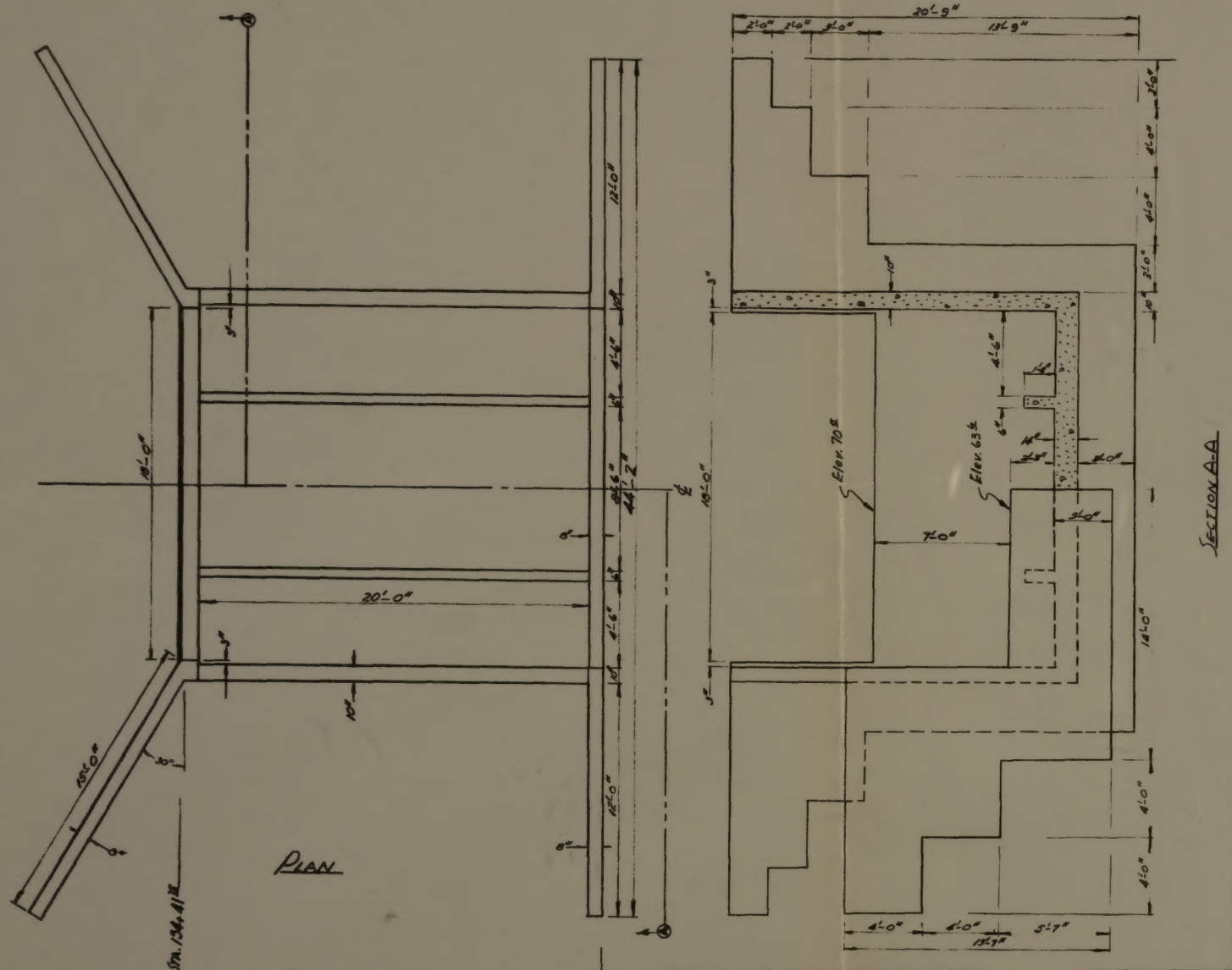
H. M. BENNETT, Chief

RECORDED *cc [signature]*

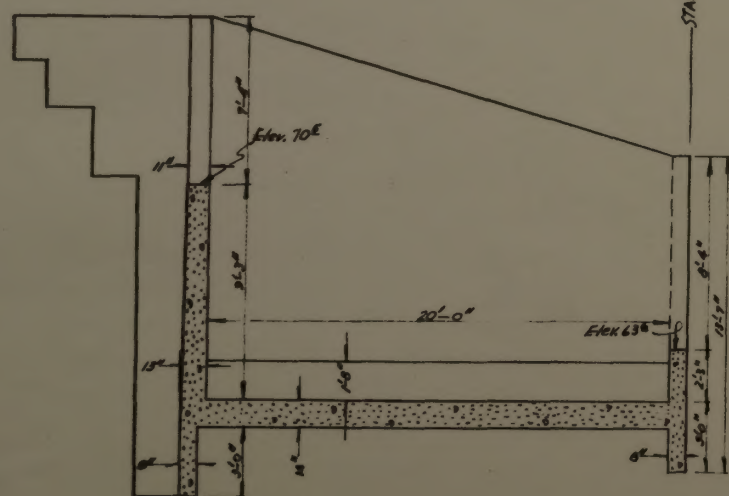
ENGINEERING APPROVAL: _____

----- ORIGINAL HERE -----

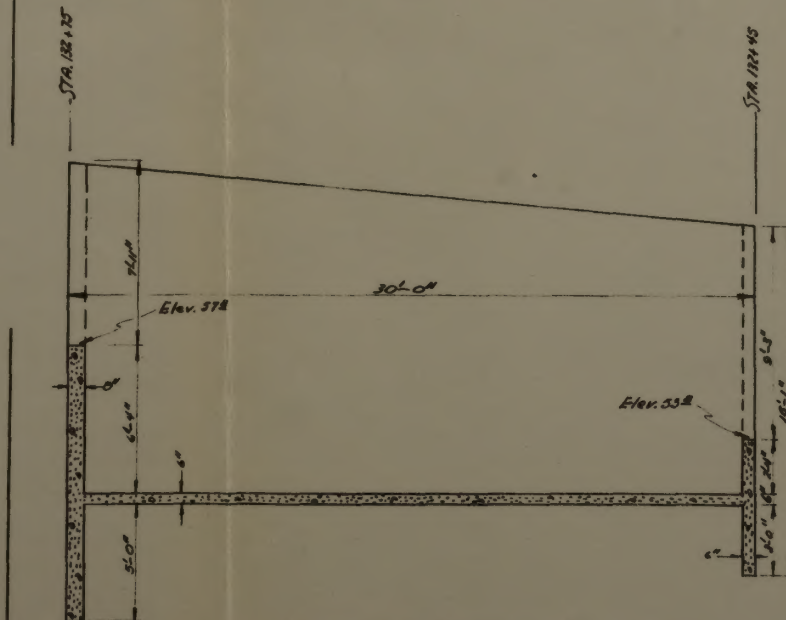
COMPILED	TRACED	CHECKED	DATE	DRAWING NO.
CCR	DLW	CCR	12-22-47	7-S-1600



DROP STRUCTURE NO. 1-32
MAX. Q=1000 C.F.S.

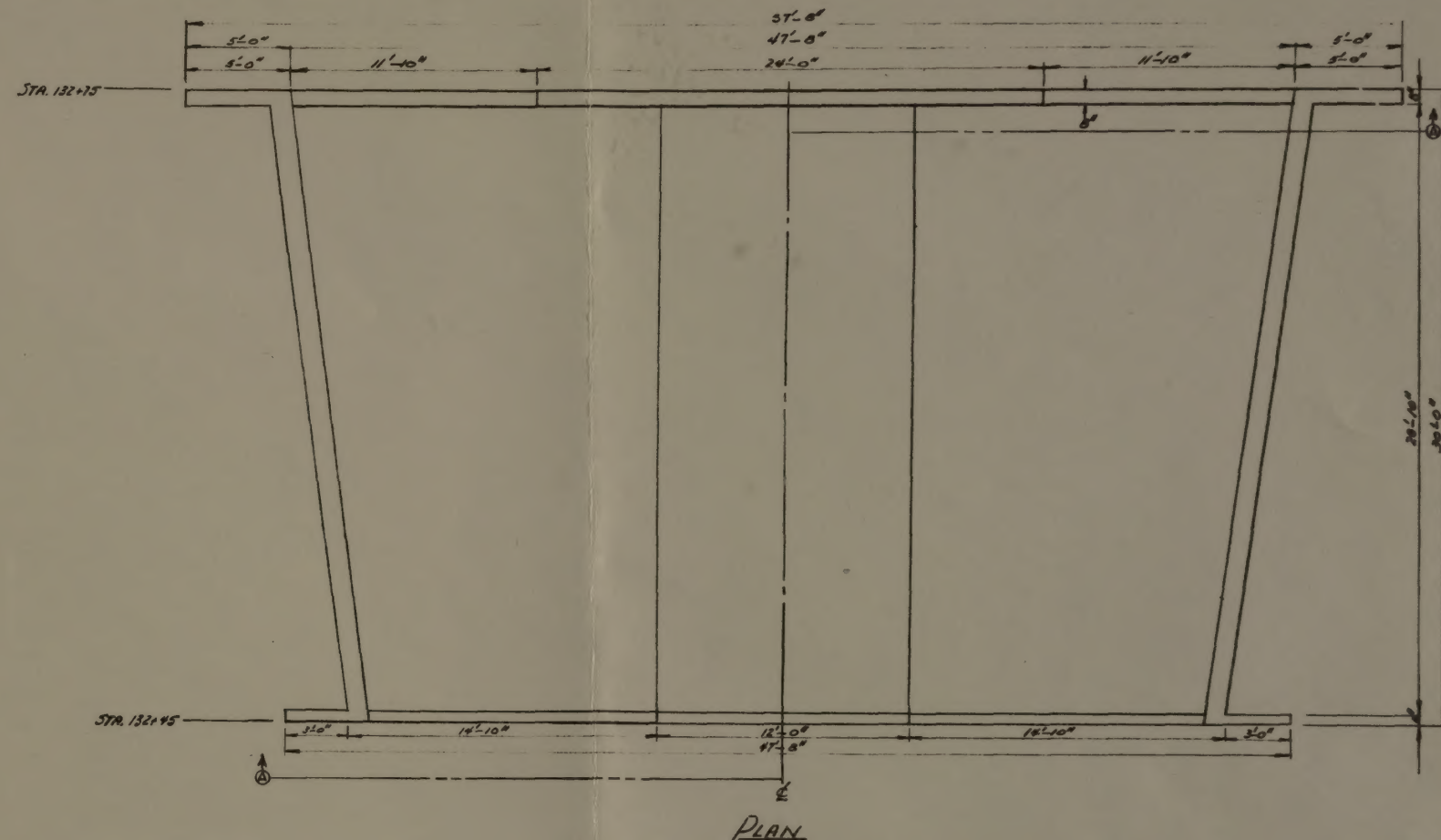


LONGITUDINAL SECTION ON E

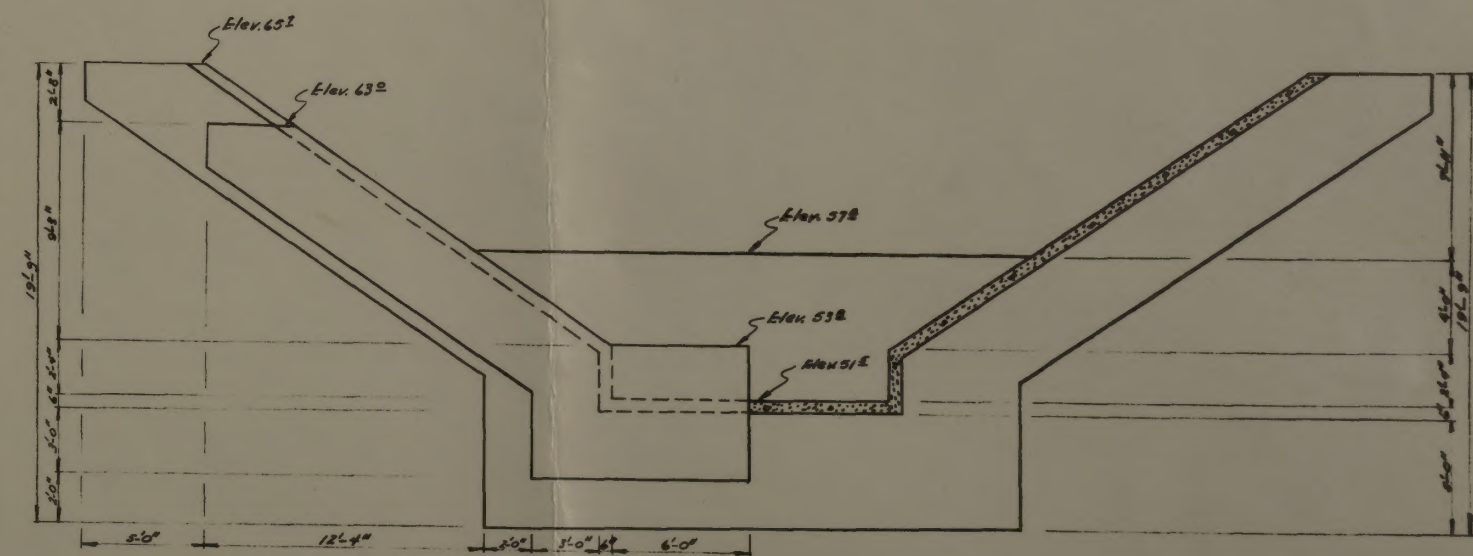


LONGITUDINAL SECTION ON F

SECTION A-A

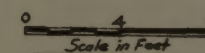


PLAN



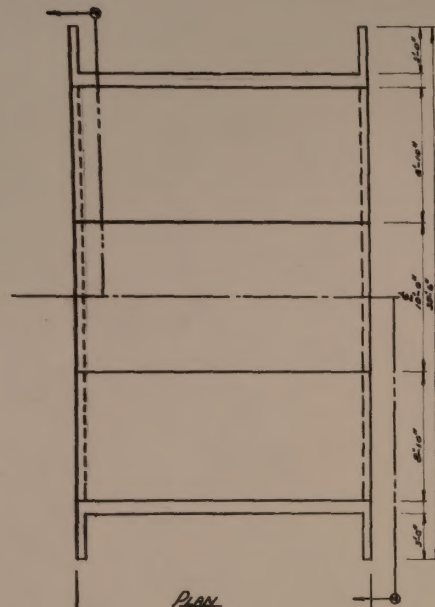
SECTION A-A

LOWER DEARIS BASIN OUTLET
STRUCTURE NO. 1-21
MAX. Q=1430 C.F.S.

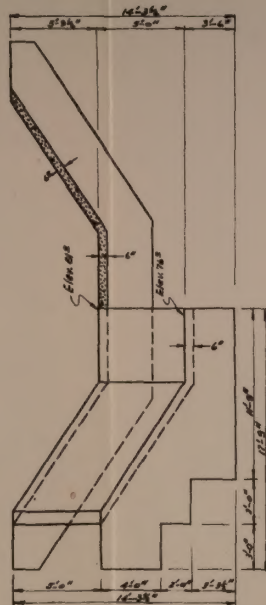


SHEET 21 OF 22 SHEETS

REGION 7				
SAN ANTONIO-ROCKY CANYON				
STRUCTURAL DETAILS				
U. S. DEPARTMENT OF AGRICULTURE				
SOIL CONSERVATION SERVICE				
H. H. BARNETT, CHIEF				
DESIGNED BY: C. C. BENT				
CHECKED BY: C. C. BENT				
DATE: 12-22-41	BY: C. C. BENT	DATE: 7-5-1968		

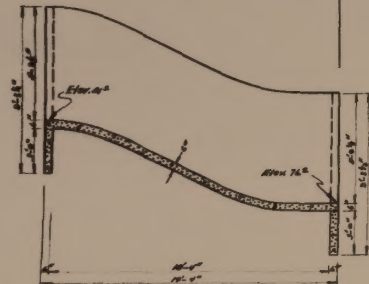


PLAN

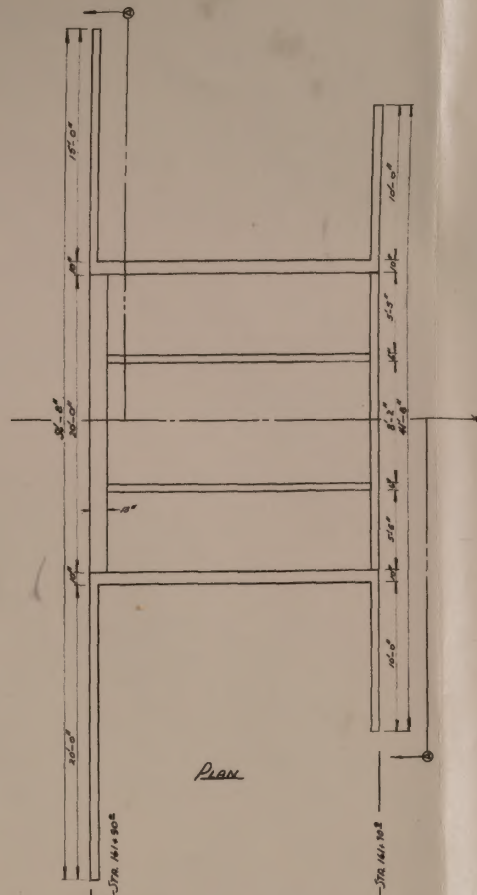


Section A-A

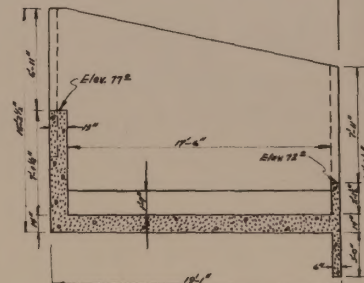
UPPER DEBRIS BASIN INLET
STRUCTURE NO. 1-4.2
MAX. Q = 1000 C.F.S.



LONGITUDINAL SECTION ON 1-1

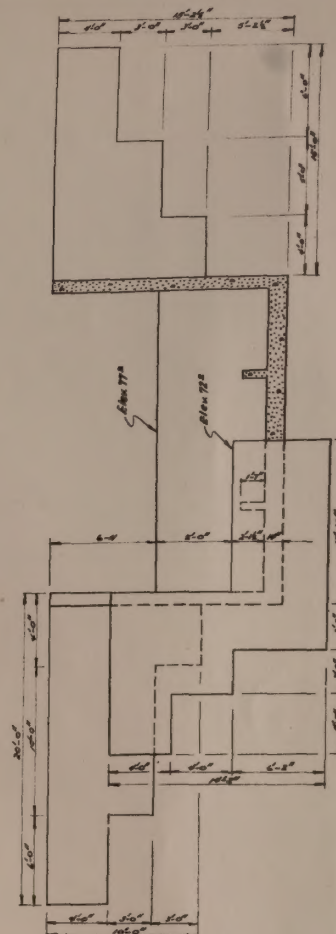


PLAN



LONGITUDINAL SECTION ON 1-1

UPPER DEBRIS BASIN OUTLET
STRUCTURE NO. 1-4.1
MAX. Q = 1000 C.F.S.

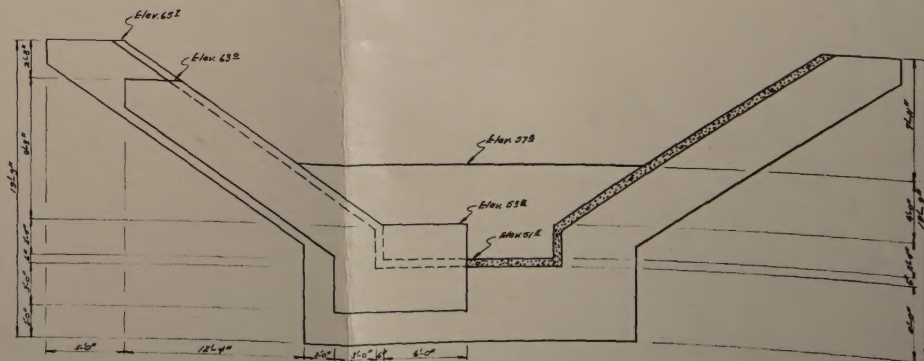
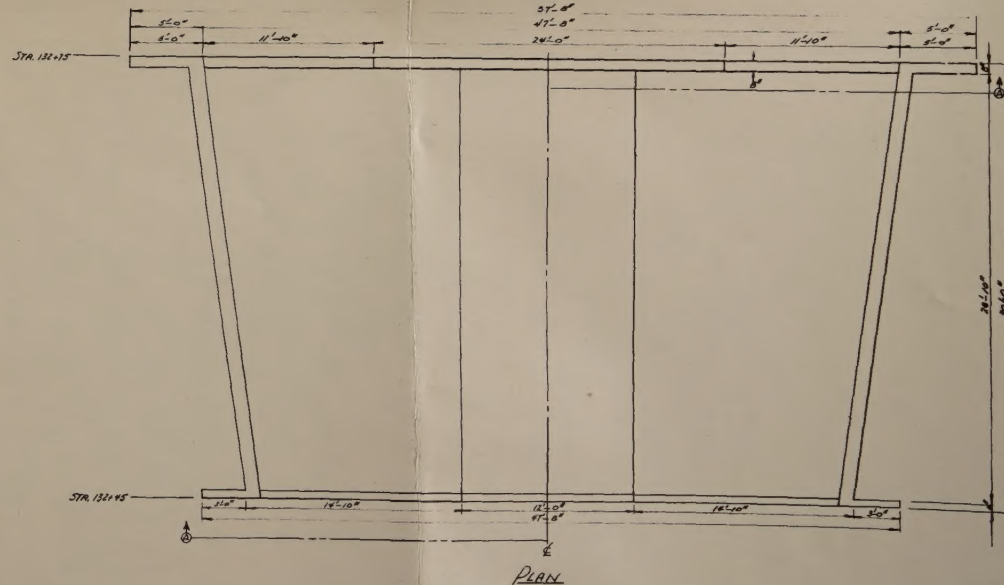
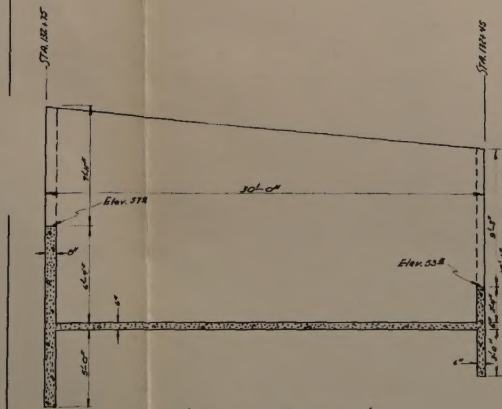
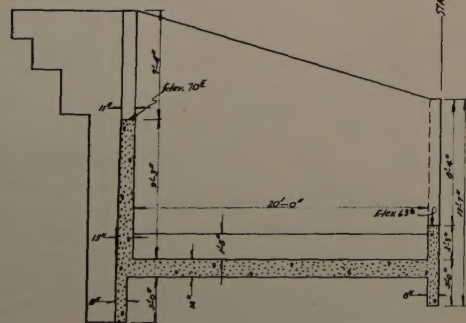
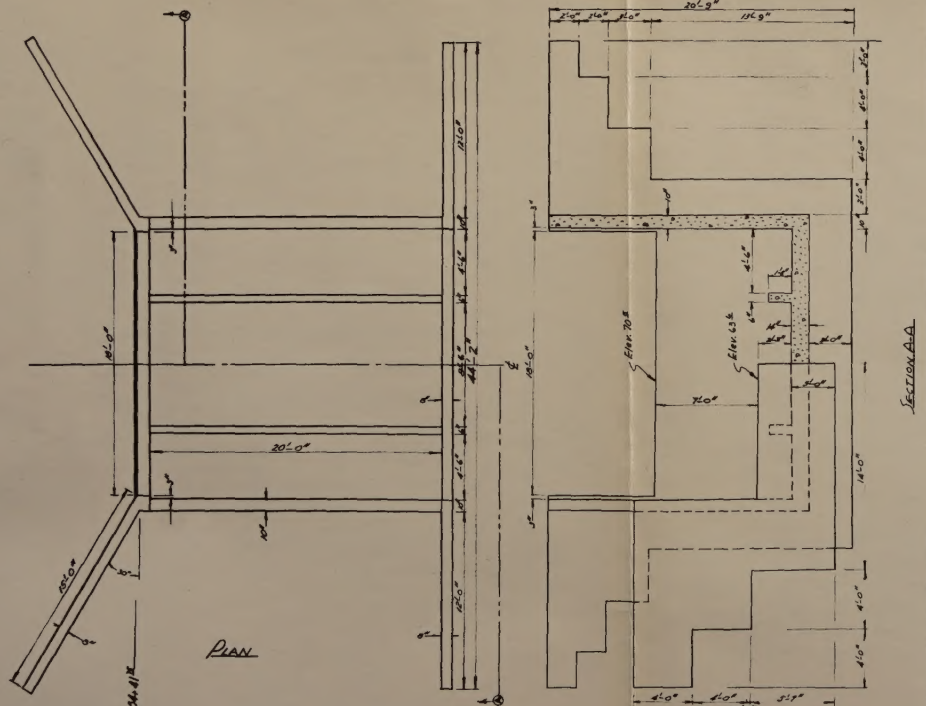


Section A-A

Scale in Feet

SHEET 22 OF 22 SHEETS

REGION 7			
SAN ANTONIO - ROAD CLOSING			
STRUCTURAL DETAILS			
AREA 22			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
R. H. BARNETT, Chief			
P. C. Allen			
DESIGNED BY	CHECKED BY	DATE	PROJECT NO.
PER	DUN	CCP	7-5-1960



Scale in Feet

Sheet 21 of 22 Sheets

REGION 7			
San Francisco-Reno Channel			
Road 400			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
N. H. BOWEN, DIST. ENG.			
DESIGNED BY	C. E. BISH	CHECKED BY	
DATE	12-22-42	DESIGNED BY	
PROJECT NO.	7-5-1080	CHECKED BY	

